

**INFORMATION
DISCLOSURE
CITATION**

Applicant: Kui-Chiu KWOK

Title: "Meltblowing Method and Apparatus"

Serial No.: Group: 1732

Filing Date: 18 March 2000

L. Tentoni

JC530 U.S. PTO
09/528357

03/16/00

U.S. PATENTS & APPLICATIONS

Initial •		Document Number							Date	Inventors	Class	Filing D.
AA	R	E	3	3	4	8	1	11 Dec 90	Zeicker et al.			#3
AB	2	2	1	2	4	4	8	20 Aug 40	Modigliani			
AC	2	2	9	7	7	2	6	2 Apr 42	Stephanoff			
AD	2	6	2	8	3	8	6	17 Feb 53	Tornberg			
AE	3	2	1	3	1	7	0	19 Oct 65	Erdmenger et al.			
AF	3	3	3	4	7	9	2	8 Aug 67	DeVries et al.			
AG	3	4	8	8	8	0	6	13 Jan 70	De Cecco et al.			
AH	3	6	5	0	8	6	6	21 Mar 72	Prentice			
AI	3	7	0	4	1	9	8	28 Nov 72	Prentice			
AJ	3	7	5	5	5	2	7	28 Aug 73	Keller et al.			
AK	3	8	2	5	3	7	9	23 Jul 74	Lohkamp et al.			
AL	3	8	4	9	2	4	1	19 Nov 74	Butin et al.			
AM	3	8	6	1	8	5	0	21 Jan 75	Wallis			
AN	3	8	7	4	8	8	6	1 Apr 75	Levecque et al.			
AO	3	9	2	0	3	6	2	18 Nov 75	Bradt			
AP	3	9	4	2	7	2	3	9 Mar 76	Langdon			
AQ	3	9	4	7	5	3	7	30 Mar 76	Buntin et al.			
AR	3	9	7	0	4	1	7	20 Jul 76	Page			
AS	3	9	7	8	1	8	5	31 Aug 76	Buntin et al.			
AT	4	0	1	5	9	6	3	5 Apr 77	Levecque et al.			
AU	4	0	1	5	9	6	4	5 Apr 77	Levecque et al.			
AV	4	0	5	0	8	6	6	27 Sep 77	Kilsdonk			
AW	4	0	5	2	1	8	3	4 Oct 77	Levecque et al.			
AX	4	1	0	0	3	2	4	11 Jul 78	Anderson et al.			
AY	4	1	4	5	1	7	3	20 Mar 79	Pelzer et al.			
AZ	4	1	8	9	4	5	5	19 Feb 80	Raganato et al.			

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*Joseph S. Del Sole*DATE CONSIDERED: *9/5/03*

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U.S. PATENTS & APPLICATIONS

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YD	AA	4	2	7	7	4	3	6	7 Jul 81	Shah et al.		
	AB	4	3	0	0	8	7	6	17 Nov 81	Kane et al.		
	AC	4	3	4	0	5	6	3	20 Jul 82	Appel et al.		
	AD	4	3	5	9	4	4	5	16 Nov 82	Kane et al.		
	AE	4	3	8	0	5	7	0	19 Apr 83	Schwarz		
	AF	4	5	2	6	7	3	3	2 Jul 85	Lau		
	AG	4	6	4	5	4	4	4	24 Feb 87	Lenk et al.		
	AH	4	7	0	8	6	1	9	24 Nov 87	Balk		
	AI	4	7	8	5	9	9	6	22 Nov 88	Ziecker et al.		
	AJ	4	8	1	8	4	6	3	4 Apr 89	Buehning		
	AK	4	8	1	8	4	6	4	4 Apr 89	Lau		
	AL	4	8	8	9	4	7	6	26 Dec 89	Buehning		
	AM	4	9	2	3	7	0	6	8 May 90	Binley et al.		
	AN	4	9	8	3	1	0	9	8 Jan 91	Miller et al.		
	AO	4	8	7	4	4	5	1	17 Oct 89	Boger et al.		
	AP	5	0	6	6	4	3	5	19 Nov 91	Lorenz et al.		
	AQ	5	0	9	8	6	3	6	24 Mar 92	Balk		
	AR	5	1	4	5	6	8	9	8 Sep 92	Allen et al.		
	AS	5	1	6	5	9	4	0	24 Nov 92	Windley		
	AT	5	2	6	9	6	7	0	14 Dec 93	Allen et al.		
	AU	5	4	2	1	9	2	1	6 Jun 95	Gill et al.		
	AV	5	4	4	5	5	0	9	29 Aug 95	Allen et al.		
	AW	5	4	5	8	7	2	1	17 Oct 95	Raterman		
	AX	5	4	5	8	2	9	1	17 Oct 95	Brusko et al.		
	AY	5	4	7	8	2	2	4	26 Dec 95	McGuffey		
V	AZ	5	5	4	0	8	0	4	30 Jul 96	Raterman		

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Attorney Docket No.: 8010 - 61

Page 3 of 7

**INFORMATION
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Applicant: Kui-Chiu KWOK

Title: "Meltblowing Method and Apparatus"

Serial No.: Exr. L. Tentoni

Filing Date: Group: 1732

U.S. PATENTS & APPLICATIONS

Initial		Document Number							Date	Inventor	Class	Filing Date
YD	AA	R	E	3	3	1	5	8	6 Feb 90	Stouffer et al.		
	AB	R	E	3	3	1	5	9	6 Feb 90	Bauer		
	AC	R	E	3	3	4	4	8	20 Nov 90	Bauer		
	AD	R	E	3	3	6	0	5	4 Jun 91	Bauer		
	AE	4	0	0	7	6	2	5	15 Feb 77	Houben et al.		
	AF	4	0	5	2	0	0	2	4 Oct 77	Stouffer et al.		
	AG	4	1	5	1	9	5	5	1 May 79	Stouffer		
	AH	4	5	9	6	3	6	4	24 Jun 86	Bauer		
	AI	4	6	9	4	9	9	2	22 Sep 87	Stouffer		
	AL	4	9	0	5	9	0	9	6 Mar 90	Woods		
		4	9	5	5	5	4	7	11 Sep 90	Woods		
		5	0	3	5	3	6	1	30 Jul 91	Stouffer		
V		5	1	2	9	5	8	5	14 Jul 92	Bauer		

FOREIGN PATENTS & PUBLICATIONS

		Document Number							Date	Country	Class	Translation Yes	No
	AM		7	5	6	9	0	7	12 Sep 56	Great Britain			
	AN	1	3	9	2	6	6	7	30 Apr 75	Great Britain			
	AO	W	9	1	5	8	9	5	19 Aug 93	PCT			
	O	3											

OTHER DOCUMENTS (Author, Title, Date and Pages)

AR Nonwovens World Magazine, "Meltblown Technology Today", 1989, pages 1-158.

AS The New Non-Wovens World, "Developments in Melt Blowing Technology", Summer 1993, pages 73-82.

AT

EXAMINER: Joseph Szelig Szele

DATE CONSIDERED:

9/5/03

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Atty. Docket No. 8010-61

Page 4 of 7

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Applicant: Kui-Chiu KWOK

Title: "Meltblowing Method and Apparatus"

Appl. No.:

Art Unit 1732

Filing Date:

Exr. Leo Tentoni

U.S. PATENTS & APPLICATIONS

Initial		Document Number							Date	Inventor	Class	Filing Date
AA		5	0	6	9	8	5	3	3 Dec 91	Miller		
AB		5	0	9	4	7	9	2	10 Mar 92	Baran		
AC		5	2	6	0	0	0	3	9 Nov 93	Nyssen et al.		
AD		5	4	2	1	9	2	1	6 Jun 95	Gill et al.		
AE		5	5	0	3	7	8	4	2 Apr 96	Balk		
AF		5	6	7	9	3	7	9	21 Oct 97	Fabbricante et al.		
AG												
AH												
AI												
AL												

FOREIGN PATENTS & PUBLICATIONS

		Document Number							Date	Country	Class	Translation Yes No
AM		4	4	1	6	1	6	8	Jul 69	Japan		
AN												
AO												
AP												
AQ												

OTHER DOCUMENTS (Author, Title, Date and Pages)

AR	Gregory F. Ward, "Micro-Denier Nonwoven Process and Fabrics", on or about 17 Oct 97, pgs. 1-9.
AS	
AT	

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Joseph Del Sle

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U.S. PATENTS & APPLICATIONS

Initial *		Document Number							Date	Inventors	Class	Filing Date
YSD	AA	2	0	3	1	3	8	7	30 Nov 34	Schwarz		
	AB	3	0	3	8	2	0	2	12 Jun 62	Harkenrider		
	AC	3	1	7	6	3	4	5	6 Apr 65	Powell		
	AD	3	1	7	8	7	7	0	20 Apr 65	Willis		
	AE	3	1	9	2	5	6	2	6 Jul 65	Powell		
	AF	3	1	9	2	5	6	3	6 Jul 65	Crompton		
	AG	3	2	0	4	2	9	0	7 Sep 65	Crompton		
	AH	3	2	5	3	3	0	1	31 May 66	McGlaughlin		
	AI	3	3	8	0	1	2	8	30 Apr 68	Cremer et al.		
	AJ	3	4	9	2	6	9	2	3 Feb 70	Soda et al.		
	AK	3	5	0	1	8	0	5	24 Mar 70	Douglas, Jr. et al.		
	AL	3	6	1	3	1	7	0	19 Oct 71	Soda et al.		
	AM	3	9	2	3	4	4	4	2 Dec 75	Esper et al.		
	AN	3	9	8	1	6	5	0	21 Sep 76	Page		
	AO	4	1	8	5	9	8	1	29 Jan 80	Ohsato et al.		
	AP	4	4	5	7	6	8	5	3 Jul 84	Huang et al.		
	AQ	4	6	5	2	2	2	5	24 Mar 87	Dehennau et al.		
	AR	4	7	4	6	2	8	3	24 May 88	Hobson		
	AS	4	7	4	7	9	8	6	31 May 88	Chao		
	AT	4	8	1	2	2	7	6	14 Mar 89	Chao		
	AU	4	8	1	8	4	6	4	4 Apr 89	Lau		
	AV	5	0	1	3	2	3	2	7 May 91	Way		
	AW	5	0	6	7	8	8	5	26 Nov 91	Stevenson et al.		

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Exr. L. Tentoni

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Art Unit 1732

U.S. PATENTS & APPLICATIONS

Initial		Document Number								Date	Inventor	Class	Filing Date
V	AA	4	9	4	9	6	6	8	21 Aug 91	Heindel et al.			
	AB	4	9	8	3	1	0	9	8 Jan 91	Miller et al.			
	AC	5	0	1	7	1	1	6	21 May 91	Carter et al.			
	AD	5	1	4	5	6	8	9	8 Sep 92	Allen et al.			
	AE	5	2	6	9	6	7	0	14 Dec 93	Allen et al.			
	AF	5	3	4	2	6	4	7	30 Aug 94	Heindel et al.			
	AG	5	3	5	4	3	7	8	11 Oct 94	Hauser et al.			
	AH	5	4	0	9	7	3	3	25 Apr 95	Boger et al.			
	AI	5	4	1	8	0	0	9	23 May 95	Raterman et al.			
	AJ	5	4	2	1	9	4	1	6 Jun 95	Allen et al.			
	AK	5	4	2	3	9	3	5	13 Jun 95	Benecke et al.			
	AL	5	4	2	9	8	4	0	4 Jul 95	Raterman et al.			
	AM	5	4	4	5	5	0	9	29 Aug 95	Allen et al.			
	AN	5	5	2	4	8	2	8	11 Jun 96	Raterman et al.			
	AO	5	5	3	3	6	7	5	9 Jul 96	Benecke et al.			
	AP	5	6	0	5	7	0	6	25 Feb 97	Allen et al.			
V	AQ	5	6	2	0	1	3	9	15 Apr 97	Ziecker			

FOREIGN PATENTS & PUBLICATIONS

		Document Number								Date	Country	Class	Translation Yes No
	AR												

OTHER DOCUMENTS (Author, Title, Date and Pages)

	AS	
EXAMINER:	Joseph S. Doh Sot	

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INFORMATION DISCLOSURE CITATION

Applicant: Kui-Chiu KWOK

Title: "Meltblowing Method and Apparatus"

Appl. No. | Exr. Ter.

Filing Date: Art Unit 173

U.S. PATENTS & APPLICATIONS

OTHER DOCUMENTS (Author, Title, Date and Pages)

	AK	Edward J. McNally et al., J&M Laboratories, "Durafiber/Durastitch Adhesives Applications Method featuring Solid State Application Technology" disclosed 8 September 1997 at Inda-Tec 97 Meeting, Cambridge MA, pgs. 26.1-26.8.
	AL	Scott R. Miller, Beyond Meltblowing: Process Refinement in Microfibre Hot melt adhesive Technology, Edana 1998 International Nonwovens Symposium, 11 pgs.
	AM	Rajiv S. Rao et al., "Vibration and Stability in the Melt Blowing Process", Ind. Eng. Chem. Res., 1993, 32, 3100-3111.

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R: Joseph S. Zabel Sole

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Atty. Docket No. 8010-61

Page 1 of 1

**SUPPLEMENTAL
INFORMATION
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APR 06 2000

Applicant: KWOK

Title: "Meltblowing Method and Apparatus"

Appl. No.: 09/528,357 Exe. L. Tentoni

Filing Date: 18 March 2000 Art Unit: 1732

U.S. PATENTS & APPLICATIONS

Initial		Document Number							Date	Inventor	Class	Filing Date
AA		3	8	0	6	2	8	9	1974	Schwarz		
AB		3	9	5	4	3	6	1	1976	Page		
AC		5	4	7	6	6	1	6	Dec. 1995	Schwarz		
AD												
AE												
AF												
AG												
AH												
AI												
AJ												
AK												

FOREIGN PATENTS & PUBLICATIONS

		Document Number							Date	Country	Class	Translation Yes No
AL		W092002	0	7	1	2	2	1992	WIPO Publication			
AM												
AN												
AO												
AP												

OTHER DOCUMENTS (Author, Title, Date and Pages)

AQ	
AR	
AS	

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Joseph S. Zellos

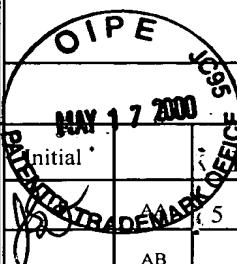
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Atty. Docket No. 8010-61

Page 1 of 1

**SECOND
SUPPLEMENTAL
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**U.S. PATENTS & APPLICATIONS**

#5

Initial	Document Number						Date	Inventor	Class	Filing Date
AA	1	5	3	1	2	5	0	Kurihara et al.		
AB										
AC										
AD										
AE										
AF										
AG										
AH										
AI										
AJ										
AK										

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FOREIGN PATENTS & PUBLICATIONS

		Document Number						Date	Country	Class	Translation Yes No	
80	AL	1	97	1	5	7	4	0	1998	Germany		
	AM											
	AN											
	AO											
	AP											

OTHER DOCUMENTS (Author, Title, Date and Pages)

AQ	
AR	
AS	

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U.S. PATENTS & TRADEMARKS
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U.S. PATENT AND TRADEMARK OFFICE

Applicant: KWOK

Title: "Meltblowing Method And Apparatus"

Appl. No.: 09/528,357

Examiner L. Antoni

Filing Date: 18-March-2000

Art Unit 175W 212001

U.S. PATENTS & APPLICATIONS

Initial		Document Number							Date	Inventor	Class	Filing Date
BS	AA	6	2	3	5	1	3	7	May 2001	Van Eperen et al.		22 Aug 1998
BS	AB	5	9	6	4	9	7	3	1999	Heath		
BS	AC	5	2	7	5	6	7	6	1994	Rooyakkers et al.		
BS		4	9	6	0	6	1	9	1990	Slauterback et al.		
BS	AD	4	8	4	4	0	0	3	1989	Slauterback et al.		
BS	AE	4	8	4	2	6	6	6	1989	Werenicz		
BS	AF	4	7	1	1	6	8	3	1987	Merkatoris		
	AG											
	AH											
	AI											
	AL											

FOREIGN PATENTS & PUBLICATIONS

		Document Number							Date	Country	Class	Translation Yes No
	AM											
	AN											
	AO											
	AP											
	AQ											

OTHER DOCUMENTS (Author, Title, Date and Pages)

BS	AR	Today's Idea, "Nordson Unveils Diaper Elastic System", October 1988, 1 pg.
BS	AS	Nordson, "Adhesive And Powder Application Systems For the Non-Wovens Industry", 1992, 7 pgs.
	AT	

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